CAI-2006-44

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Underground Coal Mine

Powered Haulage Accident
November 4, 2006

Mine #23
McCoy Elkhorn Coal Corp.
Pikeville, Pike County, Kentucky
ID No. 15-18721

Accident Investigators

Robert J. Newberry
Mining Engineer

Kenneth Fleming
Coal Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
District 6
100 Fae Ramsey Lane
Pikeville, KY 41501
Kenneth A. Murray, District Manager

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Photograph of Re-created Accident Scene

OVERVIEW

On November 4, 2006, Tony Swiney, a 44-year old section foreman, was fatally injured in a powered haulage accident on the 001-0 MMU section. Swiney had 25 years of total mining experience and had worked two years at this mine.

Swiney was using a battery powered scoop to pull a shuttle car cable toward the power center. The plug end of the cable had been wrapped around the canopy post of the scoop to facilitate pulling. The scoop ran over the cable, which became lodged between the scoop tire and the mine floor. The end of the cable unwound from the canopy post and the plug struck the victim in the head resulting in fatal injuries. The accident occurred because mine management, aware that cables were being pulled unsafely, failed to ensure that safe procedures for pulling cables with mobile equipment were established and followed.

GENERAL INFORMATION

McCoy Elkhorn Coal Corp., Mine #23, MSHA I.D. No. 15-18721, is located 0.9 miles northeast of the intersection of U.S. 23 and KY 3218 near Pikeville, Pike County, Kentucky. McCoy Elkhorn Coal Corp., Mine #23 is opened into the Elkhorn No. 3 coal seam which averages 56 inches in height. The mine has been in active status since April 22, 2004.

The principal officials for McCoy Elkhorn Coal Corp., at the time of the accident were:

Randall K. Taylor	President
Gary Hensley	Superintendent
Clifton Preece	Safety Director

Coal is produced on two active sections using remote control continuous mining machines and shuttle cars. Underground conveyor belts are utilized to transport the coal to the surface. The mine produces an average of 8,000 tons of raw coal per day and employs 104 persons. Coal is produced during two 8-hour shifts, six days per week. Maintenance is performed one shift per day six days per week. A regular safety and health inspection by the Mine Safety and Health Administration (MSHA) was completed on September 27, 2006.

DESCRIPTION OF ACCIDENT

On Saturday, November 4, 2006, Swiney and the section crew arrived at the mine about two hours early in order to complete a section move from the 1A Northeast Panel to the 1st Southeast Main. They entered the mine at 5:00 a.m. and traveled the track entry to the 001-0/002-0 mechanized mining unit (MMU), a super section. The crew moved most of the section equipment and power center to the 1st Southeast Main. Swiney told Mark Smith, Shuttle Car Operator, Johnny Stiltner, Roof Bolting Machine Operator, and Brad Taylor, Repairman to move the shuttle cars from the 1A Northeast Panel to the No. 2 Entry of the 1st Southeast Main. They had connected the trailing cables for two of the three shuttle cars to the power center when Taylor was summoned to repair the continuous miner cable. Swiney brought a battery operated scoop over to the shuttle car and told Stiltner to wrap the end of the cable around the canopy post on the scoop and lay the cable across the battery trays so that he could watch the cable.

Swiney trammed the scoop across the 1st Southeast Main section from No. 3 entry to the No. 8 entry pulling the shuttle car cable behind him. Stiltner walked behind the scoop until he reached the No. 6 entry where he waited to pull the cable by hand down the entry to the power center. Swiney reversed the scoop and pulled the cable from the No. 8 entry back to the No. 4 entry leaving the additional cable along the mine floor. Stiltner pulled some of the cable down the No. 6 entry and waited for Swiney to bring the cable plug to him. Swiney stopped at the No. 4 entry and reversed direction again and pulled the cable toward the No. 6 entry.

At approximately, 1:30 p.m., Stiltner called to Swiney and hearing no response walked to the crosscut and shined his light on Swiney and saw the cable plug lying on the mine floor. He went to Swiney whose head was laid back with his hard hat lying on the mine floor. Stiltner summoned Brad Taylor who was working nearby and told him that Swiney was hurt . Taylor went to Swiney and seeing his condition told Stiltner to get Rick Wallen, Mine Emergency Technician (MET). Wallen was assisted by Tommy Holyfield, MET. According to Wallen and Holyfield, Swiney was responsive although he could not speak. Swiney was lifted out of the scoop, placed on a stretcher and transported out of the mine on the man-trip to an ambulance that was waiting on the surface. He was then transported to the Pike County Regional Airport to a helicopter. While en route to Huntington, West Virginia, his condition worsened. Swiney was rerouted to Pikeville Medical Center, where he was pronounced dead at 3:38 p.m. by the Pike County Coroner.

INVESTIGATION OF ACCIDENT

Gary Hensley, Superintendent, notified MSHA of the accident at 2:22 p.m. on November 4, 2006. A 103(k) order was issued to secure the accident scene while the investigation was conducted and to ensure the safety of any persons in the mine. An investigation was conducted in cooperation with State officials. Interviews were conducted with nine miners and management officials deemed to have knowledge of the facts regarding the accident. The interviews were conducted at the Kentucky Office of Mine Safety and Licensing office on November 7, 2006.

DISCUSSION

Geologic Conditions

The immediate floor at McCoy Elkhorn Coal Corp., Mine #23 was comprised of gray sandy shale. The Elkhorn No. 3 coal seam thickness averages 56 inches. The mining height at the accident site was 54 inches and the width at the accident site was 19 feet 4 inches. The grade through the crosscuts where the scoop traveled was less than one percent.

Attachment of Cable

The shuttle car trailing cable was a No. 6 AWG cable and was attached to the scoop by winding the plug end around the canopy post located on the outside corner of the canopy adjacent to the batteries (Reportedly this is a common practice to quickly attach cables for pulling.) Grab hooks were welded to each end of the scoop to facilitate attachment of cables with ropes. According to Mark Smith, shuttle car operator, a wooden block was often placed behind the ram of the scoop so the cable could be looped around the block to pull the cable from one location to another.

Battery Powered Scoop

The battery powered scoop being operated by the victim at the time of the accident contained tags that stated "S&S Corporation, Model No. 488, Serial No. 488-2010, and Approval No. 2G-2831-5." Tram motor control was provided by a solid state controller (Model A3600). According to mine personnel, the controller had been installed in the scoop approximately two weeks prior to the accident.

A functional test of the scoop was performed by investigators onsite before any alterations or repairs were made in the control panel. This test indicated that the scoop's tram control system, steering, and service brakes were functioning properly at the time of the accident.

The machine was equipped with an automatic emergency park brake. When a functional test was performed, the brake activated but failed to quickly stop the machine. Upon closer examination it was determined that the brake caliper was out of adjustment. When the brake caliper was adjusted, the park brake system quickly brought the machine to a complete stop.

The emergency deenergization device (panic bar) operated properly when tested by investigators after the accident. Operation of the panic bar tripped the main machine circuit breaker and activated the emergency parking brake system. According to Johnny Stiltner, the scoop was still running when mine personnel first arrived at the accident scene, indicating that the panic bar had not been activated during the accident.

ROOT CAUSE ANALYSIS

An analysis was conducted to identify the most basic causes of the accident. Root causes were identified that, if eliminated, would have either prevented the accident or mitigated its consequences. Listed below is the causal factor identified during the analysis and its corresponding corrective actions implemented to prevent a recurrence of the accident:

Root Cause: Mine management did not establish and enforce a safe procedure for pulling cables with mobile equipment. The practice of wrapping the cable around the post of the canopy in close proximity to the scoop operator was hazardous.

Corrective Action: The mine operator developed a policy for pulling cables with mobile equipment which specifies that ropes or straps designed for that purpose will be used and prohibits attaching the ropes or straps to the decks or canopies of equipment. All persons working at this mine were given additional training covering the cable pulling policy.

CONCLUSION

The accident occurred when the victim was using a battery powered scoop to pull a shuttle car cable toward the power center without having the cable properly and safely attached to the scoop. The accident occurred because mine management failed to establish and enforce a safe procedure for pulling electrical cables with mobile equipment.

APPROVED BY:

_____ _____

Kenneth A. Murray Date
District Manager

ENFORCEMENT ACTIONS

1. A 103(k) Order, No. 7415703, was issued on November 4, 2006.

   Condition or Practice: "A fatal machinery accident has occurred on the MMU 001-0 /002-0 (super section.) This order is issued to ensure the safety of any persons in the coal mine until an examination or investigation has been conducted and determination has been made that the area is safe. Only those persons who are deemed by MSHA to have information relevant to the investigation may enter or remain in the mine."

2. A 314(b) Safeguard, was issued to McCoy Elkhorn Coal Corp. "A fatal powered haulage accident has occurred at this mine. The victim was using a scoop, whose tag read "S&S Model 488" to pull a shuttle car cable across the working section. The scoop ran over the cable, which became lodged between the scoop tire and the mine floor. The end of the cable unwound from the canopy post and the plug struck the victim resulting in fatal injuries.

   This is a Notice to provide safeguard(s) requiring that all cables being pulled by mobile equipment be attached to the equipment using ropes or straps designed for that purpose and to the opposite end of the equipment's direction of travel. At no time will the ropes or straps be attached to the decks or canopies of equipment. Equipment will not pull cables in one direction and then reverse direction of travel without re-attaching the rope or strap to the opposite end of the equipment. "

APPENDIX A

List of Persons Participating in the Investigation

McCoy Elkhorn Coal Corp. Officials

Randall Taylor	President
Gary Hensley	Superintendent
Chris Smith	Mine Foreman
Brad Taylor	Repairman
Johnny Stiltner	Roof Bolting Machine Operator
Thomas Holyfield	Belt Man
Rick Wallen	Shuttle Car Operator
Mark Varney	Continuous Mining Machine Operator
Mark Smith	Shuttle Car Operator
Roger Lawson	Roof Bolting Machine Operator
Keath Conn	Roof Bolting Machine Operator
Clifton Preece	Safety Director
Marco Rajkovich	Attorney

Kentucky Office of Mine Safety and Licensing

Mike Elswick	District Supervisor
Greg Goins	Accident Investigator
Randy Newsome	Electrical Inspector
Ron Hughes	Director of Investigations
Worley Taylor	Safety Inspector

Mine Safety and Health Administration

Scott Mandeville	Acting Assistant District Manager
Robert Newberry	Mining Engineer
Benny Freeman	Supervisory Mine Safety and Health Inspector
Michael Sergent	Supervisory Mine Safety and Health Inspector
Kenneth Fleming	Mine Safety and Health Inspector
Roger McComas	Supervisory Mine Safety and Health Inspector
David Stepp	Mine Safety and Health Inspector
Noah Rose	Coal Mine Safety and Health Specialist (Electrical)
Neil Morholt	Attorney

APPENDIX B

Accident Investigation Data - Victim Information

Event Number: 4 1 9 2 8 7 2

U.S. Department of Labor
Mine Safety and Health Administration

Victim Information: 1

1. Name of Injured/Ill Employee:	2. Sex	3. Victim's Age	4. Last Four Digits of SSN:	5. Degree of Injury:
Tony Swiney	*M*	*44*		*01 Fatal*

6. Date(MM/DD/YY) and Time(24 Hr.) Of Death:	7. Date and Time Started:
a. Date: 11/04/2006 b.Time: 15:38	*a. Date: 11/04/2006 b.Time: 6:00*

8. Regular Job Title:	9. Work Activity when Injured:	10. Was this work activity part of regular job?
049 Section Foreman	*040 Moving shuttle car cable*	Yes X No

11. Experience	Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days		Years	Weeks	Days
a. This Work Activity:	*8*	*0*	*0*	b. Regular Job Title:	*13*	*0*	*0*	c: This Mine:	*2*	*0*	*0*	d. Total Mining:	*25*	*0*	*0*

12. What Directly Inflicted Injury or Illness?	13. Nature of Injury or Illness:
042 Shuttle Car Cable Connector	*220 Extensive skull fractures*

14. Training Deficiencies:

Hazard: | New/Newly-Employed Experienced Miner: | Annual: | Task:

15. Company of Employment:(If different from production operator)

Operator

Independent Contractor ID: (if applicable)

16. On-site Emergency Medical Treatment:

Not Applicable: | First-Aid: | CPR: | EMT: X | Medical Professional: | None:

17. Part 50 Document Control Number: (form 7000-1)

18. Union Affiliation of Victim: *9999* *None (No Union Affiliation)*

Appendix C
Section Sketch of Accident Scene - Plan View (Not to Scale)